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Acute Allograft Rejection in the Late Post Heart Transplant Period: An Example of Successful Management

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INTRODUCTION: Rejection is among the leading causes of morbidity and mortality after heart transplants. The incidence of rejection has decreased as maintenance immunosuppression regimens have improved. When symptomatic, acute cellular rejection presents with signs of left ventricular dysfunction and dysrhythmia. Antibody mediated rejection presents with graft dysfunction and hemodynamic compromise.

CASE DESCRIPTION: A 30 year old male with history of non-ischemic cardiomyopathy underwent orthotopic heart transplant in 2015. He represented 23 months later with syncope. Following stabilization of blood pressure, a cardiac catheterization showed a cardiac index of 1.3 L/min/m² and he was noted to be in complete heart block. Inotropic support was initiated and an Impella 3.0 and temporary transvenous pacemaker were placed. Cardiac index improved to 2.2 L/min/m². Biopsy was consistent with acute antibody mediated rejection and low-grade acute cellular rejection, for which he was treated medically with methylprednisolone, tacrolimus, Mycophenolate mofetil, plasmapheresis, and intravenous immunoglobulin. Continued failure led to an upgrade of Impella 3.0 to Impella 5.0 and subsequent placement of ProtekDuo right ventricular support. Following coronary stenting, continued therapy for rejection, continued mechanical support, and volume removal via continuous dialysis, the patient improved. After 2.5 weeks the Impella 5.0 was removed and after 3.5 weeks the ProtekDuo was removed. Follow up echocardiography showed a left ventricular ejection fraction of 50% and persistent mild right ventricular dysfunction. Repeat biopsy was negative for rejection. The patient was discharged from the surgical intensive care unit on low dose inotropic support. Our case demonstrates the successful, complex management of acute allograft rejection in the late transplant period which manifested as biventricular failure, complete heart block, and cardiogenic shock.